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A NEW SPECIES AND GENERIC PLACEMENT FOR THE MISIDENTIFIED TYPE SPECIES OF *EPICLEA* DYAR, 1905 (LEPIDOPTERA: LIMACODIDAE)

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Abstract.—A Mexican species of Limacodidae has remained undescribed, hidden under the name *Epiclea elaea* (Druce) 1887 because of an improper type label on a specimen now in the collection of The Natural History Museum, London. The species is described as ***Monoleuca longifascia***, new species, and is placed in *Monoleuca* based on a number of putative synapomorphies with the type species *Monoleuca semifascia* Walker.

Key Words: *Epiclea, Euprosterna, Monoleuca,* Limacodidae, Type species, Mexico, mislabelled type

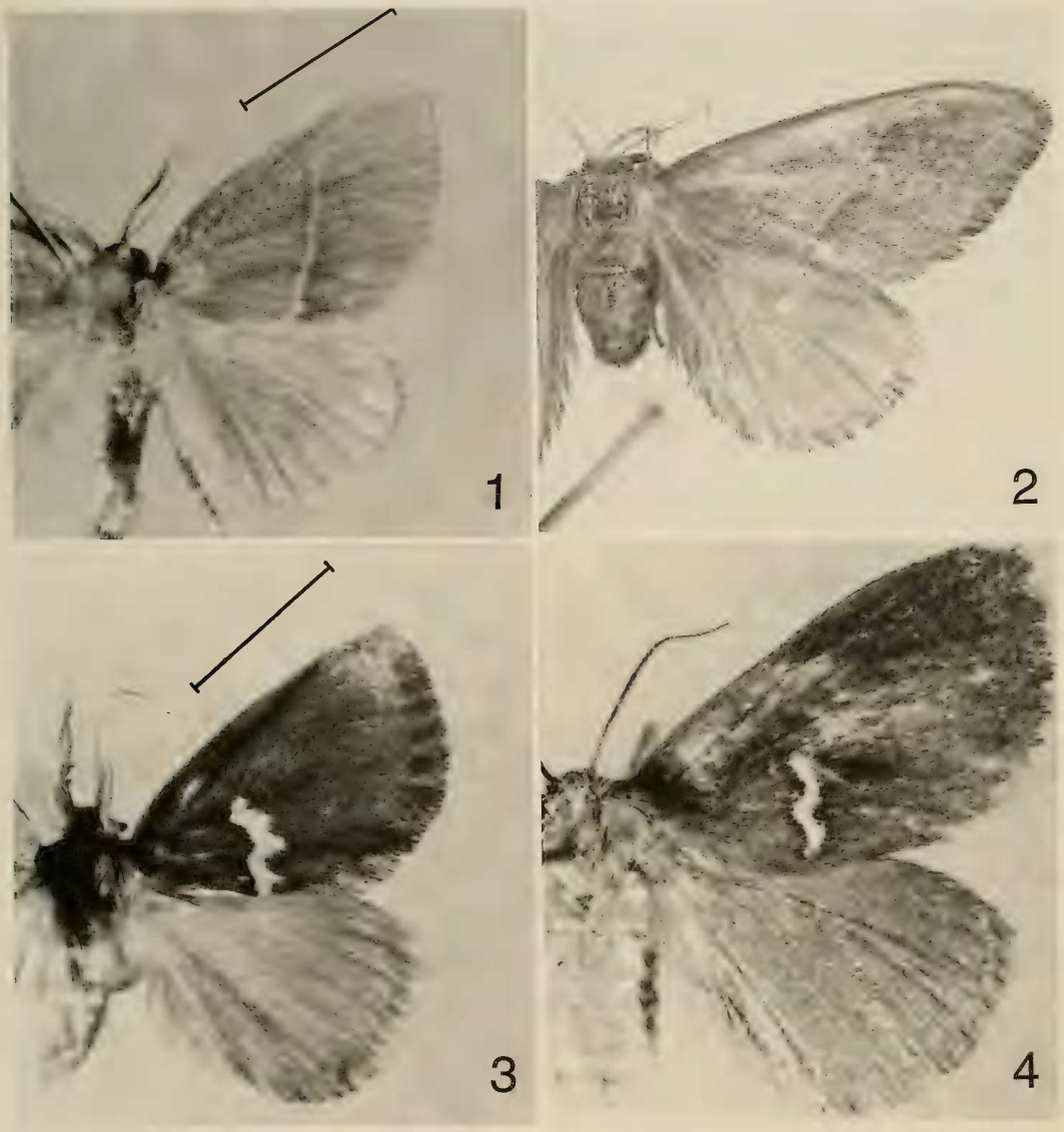
Druce (1887) described a species of Limacodidae as *Perola elaea* from Volcan de Chiriqui, Panama (Ribbe, in mus. Staudinger). Dyar (1905:373) considered a specimen labelled "type," from a mixed series of species under the name *P. elaea* in the Druce Collection, to be the type of *P. elaea.* Druce's specimen, now in the collection of The Natural History Museum, London, is clearly not the type of *P. elaea* but an unnamed species from Jalapa, Mexico (collected by M. Trujillo). Dyar (1905:377) recognized that a second species in Druce's mixed series matched the figure of *P. elaea* in Druce (1887), although he named it *Euprosterna elaeasa* because he assumed the other species to be *elaea* (see "Discussion" below). A further problem arose when Dyar used the mislabelled "*elaea*" as a basis for describing a monotypic genus *Epiclea* (Dyar 1905:373). Recently, *Epiclea* Dyar was synonymized under *Euprosterna* Dyar 1905 (Becker and Epstein 1995), since true *elaea* belongs in *Euprosterna,* and *Euprosterna elaeasa* was synonymized under *elaea* Druce (Epstein and Becker 1994). The purpose of this treatment is to describe the Mexican species, which has remained without a name and place it in a genus.

Specimens examined were from: The Natural History Museum, London (BMNH); National Museum of Natural History, Smithsonian Institution, Washington, DC (USNM); Natural History Museum of Los Angeles Co., CA (LACM); Vitor O. Becker Collection, Brasilia, Brazil (VOB); Carnegie Museum of Natural History, Pittsburgh, PA (CMNH). The holotype and five paratypes will be deposited in the collection of Instituto de Biología, Universidad Nacional Autonoma de Mexico, Mexico City, D.F. (UNAM).

Monoleuca longifascia Epstein, New species

Diagnosis.—Combination of medial band on forewing, male antennae with broad pectinations to near apex (Fig. 1), fused R_3 and R_4 (Fig. 5), and two hind tibial spurs separate this species from all other known species of limacodids in the Neotropics.

Adult (Figs. 1, 2).—*Head:* Male antenna bipectinate to 3/5 from base; longest pectinations around twice length of antennal



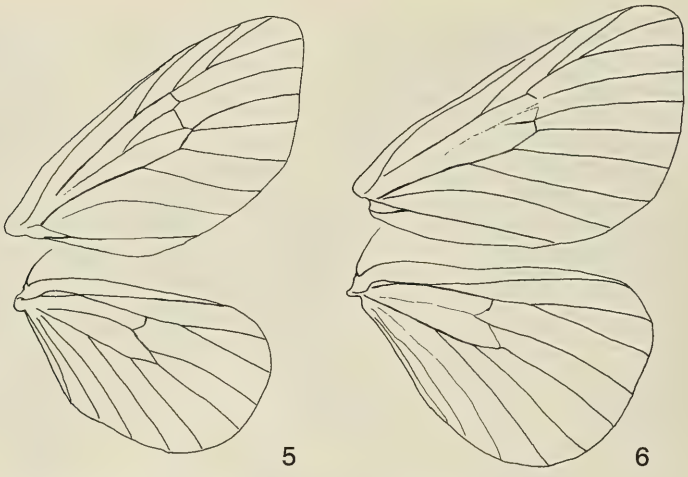
Figs. 1–4. 1, Holotype of *Monoleuca longifascia,* male wing pattern (UNAM) (forewing 9 mm, scale bar = 5 mm). 2, *M. longifascia,* female wing pattern (USNM) (forewing 15 mm) (photo by V. Krantz). 3, *M. semifascia,* male wing pattern (USNM) (forewing 10 mm, scale bar = 5 mm). 4, *M. semifascia,* female wing pattern (forewing 13.5 mm).

segments. Female antenna filiform. Third labial palpal segment oval, connected to apex of second palpal segment; haustellum weakly developed.

Legs: Hind tibia with one pair of spurs (incorrectly reported as being without spurs by Dyar [1905a, 1935]).

Forewing: Length: 8–11 mm male, 15 mm female. Tawny with narrow buff colored medial band, parallel to outer margin from inner margin to costa; suffused with lighter scales on basal area in some specimens, fringes without checkered appearance; R_3 and R_4 fused, connected to R_5 (Fig. 5).

Hindwing: Unmarked, similar hue to FW.



Figs. 5–6. Male wing venation. 5, *Monoleuca longifascia.* 6, *M. semifascia.*

Male genitalia (Fig. 7): Narrow uncus triangulate in basal half and abruptly narrowed to spindle in apical half with a minute, obliquely curved claw at apex; gnathos with fused distal portion angled obliquely posteroventrad and approx. half as wide as long, extending as far to posterior as uncus, convex above and apex rounded; valva narrow beyond midpoint, extending beyond apex of uncus with dorsal margin nearly straight and ventral margin round in basal third and angled approx. 45 degrees upward to apex; juxta and transtilla simple; aedeagus with basal third upcurved to horizontal distal portion and without small distal spines; vesica without cornuti.

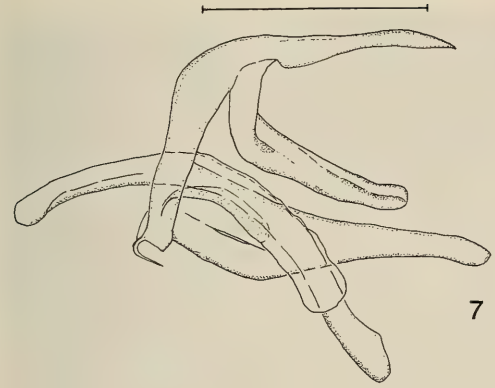
Female genitalia (Figs. 9, 10): Papillae anales narrow relative to transverse width of eighth abdominal segment; dorsum of lobes appearing elongate with angulate margins; lateral lobes on eighth segment absent (often found in limacodids); seventh segment wrinkled, extending to posterior to cover much of eighth segment. Bursa copulatrix short, only about twice length of papillae anales; ductus bursae and corpus bursae approx. equal length; ductus seminalis broadly connected to ductus bursae at distal end proximate to corpus bursae; signum absent.

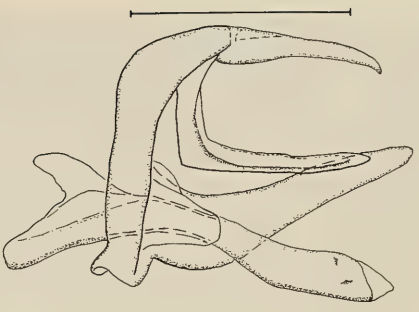
Larva.—Unknown.

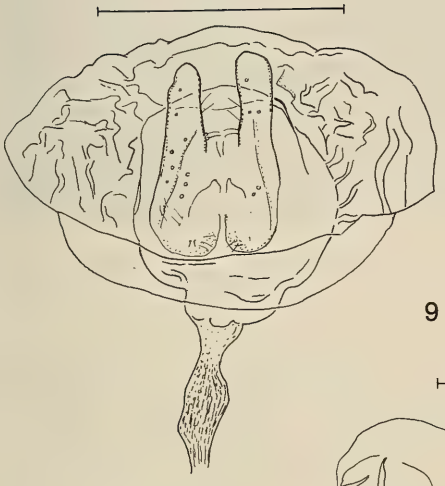
Distribution.—Mexico, at elevations ranging between 1050 and 2010 m.

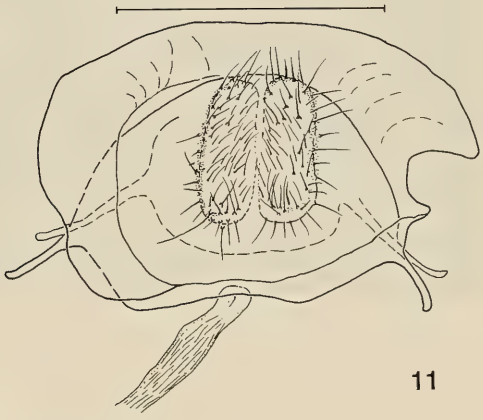
Types.—Holotype ♂, MEXICO: Tamaulipas, Rancho del Cielo, 6 km NNW Gomez Farias, 3500 ft, vii 1982 (M. A. Solis) (UNAM). Paratypes (27 specimens): 10 ♂, same data as holotype (5 each deposited in UNAM and USNM): MEXICO: 5 ♂, 1 ♀, Tamaulipas, Rancho del Cielo, 6 km NNW Gomez Farias, 3500 ft, 30 vii 1988 (Becker & Solis) (3 ♂ VOB, others USNM); 1 ♂, Hidalgo, 8 mi NE Jacala, vii 1970, 5200 ft, (Fisher) (LACM); 2 ♂, Hidalgo, 11 mi S Zimapan, 3 viii 1966 (Flint) (USNM); 1 ♂, Nuevo Laredo, 3 mi E Galeana, 5000 ft, 7–9 viii 1963 (Duckworth & Davis) (USNM); 1 ♂, Oaxaca, 2 km NW Llano Verde 2010 m, 7 July 1977 (J. E. Rawlins) (CMNH); 1 ♂, Oaxaca, 5 mi NW of Huajuapan, "UVLite," 28 July 1981 Acc. #699 (P. Jump) (LACM); 2 ♂, Hidalgo, La Montana, Tlanchinol 6000′ 11–13 May 1991 D.G. Marqua (LACM); 1 ♂, Veracruz, 8 mi SE Jalapa, 19 July 1981, UVLite Acc#681 P. M. Jump (LACM); 1 ♂, Jalapa (Schaus) (USNM) [genit. prep. 28,200; compared with Druce specimen in BMNH by Dyar]; 1 ♂, Guerrero vic. Acuitlapan, 10 mi NE Taxco 5000 ft. 4–5 September 1970 (E. M. and J. L. Fisher) (LACM).

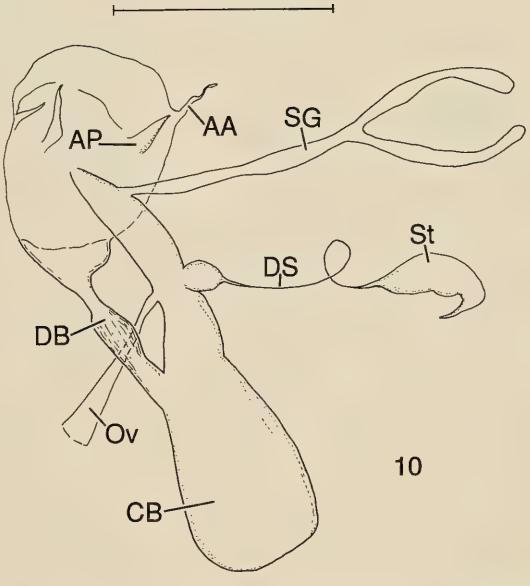
Generic placement.—Placement of *lon-*











Figs. 7–11. Male genitalia, lateral view (left valva removed) (scale length in parentheses). 7, *Monoleuca longifascia*) (2 mm). 8, *M. semifascia* (distal end of aedeagus, right) (1 mm). 9–11, Female genitalia (scale length in parentheses). 9, *M. longifascia,* ventral view, papillae anellus and segments 7–8 (1 mm). 10, *M. longifascia,* view of bursa copulatrix and associated structures (1 mm). 11, *M. semifascia,* ventral view, as for Fig. 9 (1 mm). AA = anterior apophyses; AP = posterior apophyses; CB = corpus bursae; DB = ductus bursae; DS = ductus seminalis; Ov = ovaries; SG = sebaceous gland; St = spermatheca.

Fig. 12. Eggs of *Monoleuca semifascia* covered with scales from female abdomen (photo by V. Krantz).

gifascia in *Monoleuca* Grote & Robinson is based on the following putative synapomorphies with the type species by original designation, *M. semifascia* Walker: 1) reduced papillae anales surrounded by dense clump of scales presumably used to cover eggs, as in *semifascia* (Fig. 12); 2) absence of lateral lobes on female eighth segment; 3) male antenna with long pectinations to near apex, then simple; 4) narrow valvae; 5) broad gnathos rounded at apex; 6) aedeagus curved from base to apex (rather than basal and distal portions angled). Fusion of R_3 and R_4 may also be a synapomorphy, however, more analysis will be needed to determine whether this occurred independently or in a common ancestor with *Adoneta* Clemens and *Monoleuca occidentalis* Barnes & McDunnough.

One species of neotropical Limacodidae, *M. albicollis* Forbes (= *Heuretes picticornis* Grote & Robinson), was mistakenly placed in *Monoleuca,* based only on wing pattern and the antennae. However, features of the forewing veins, larva, tibial spurs and genitalia clearly placed this species and its relatives in the genus *Heuretes* in the *Phobetron* complex (Epstein and Miller 1990).

Discussion.—In response to an inquiry by Hering in 1927, Dyar wrote that he did not record the locality data of the supposed type of *elaea* that was in Druce's collection, but if it differed from the Panama locality it would be a misidentified type. He chose to leave the "matter . . . unsettled" because "To make the change would require a new name for the species I call *elaea* Druce, invalidate the genus *Epiclea,* which would supercede [sic] *Euprosterna* and require a new genus for my conception of *Epiclea*" (H. G. Dyar Collection, Smithsonian Institution Archives).

The male genitalia of *semifascia* (Fig. 8), while very similar to those of *longifascia,* show the following subtle differences: 1) curve of aedeagus less steep from base to apex; 2) gnathos slightly concave rather than convex; 3) dorsal margin of valva

more angled upwards beyond basal fourth, making it more nearly parallel to ventral margin. The differences between female genitalia of *semifascia* (Fig. 11) and *longifascia* are more obvious, including: 1) broader papillae anales that are more fused to 8th abdominal segment along the margins and more laterally convex; 2) length of bursa copulatrix much greater than length of papillae anales; 3) corpus bursae with a signum.

The continuous medial band from the inner margin to the costa in *longifascia* is unusual in genera with close phylogenetic ties to *Euclea* Huebner. *Euclea byrne* (Dyar) is the only similar example that I know of (*Talima* species and some *Parasa* species have a continuous band, but it is submarginal rather than medial). *Monoleuca occidentalis, Adoneta* species, and a number of *Euclea* species have a band of darker scales between the subapical and postmedial spots. The band in *M. longifascia* may have resulted from a lightening of these scales between the spots in the two regions. Alternatively, the long band in *longifascia* resulted from an extension to the costa of a postmedial fascia present only below the discal cell, as in *M. semifascia.* This, however, seems less likely because it would require that an extension of the band be produced de nova.

A third species in Druce's series is a female of a Mexican species of *Euclea,* probably undescribed.

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